Supporting Information

Life Cycle Inventory and Carbon and Water FoodPrint of Fruits and Vegetables: Application to a Swiss Retailer

Franziska Stoessel, Ronnie Juraske, Stephan Pfister, Stefanie Hellweg*

ETH Zurich, Institute of Environmental Engineering, CH-8093 Zürich

Corresponding author e-mail: stoessel@ifu.baug.ethz.ch; phone: +41-44-633-7063; fax: +41-44-633-1061

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Material and Methods

1. Packaging and operation of the store. Fruits and vegetables are generally packed by the consumers using light polyethylene bags, made of LDPE (low density polyethylene). Four bags were weighted in the lab and compared with specifications of bag-suppliers. An average load of half a kg per bag-use and a short storage period in the store is assumed.[1] The global warming potentials (GWP) of the packaging (disposal in municipal incineration included) and store operation were calculated (shown in table S1) and compared to the overall impact of fruits and vegetables from cradle to shelf.

Table S1: GWP of one kg of crop from cradle to shelf (packaging and operation of the store included) compared to the GWP of one kg of product from cradle to gate.

	2 bags à 2.5 g / kg of fruit or vegetable	**Store operations (electricity use for cooling, freezing, lighting) for one kg of product**	**Average impact per kg vegetable and fruit from cradle to gate.**	**Total**
kg CO_2 eq. / kg of product	0.016	0.011	0.463 (without any air transport or greenhouse heating) 0.834 (with all reasonable air transport and greenhouse heating)	0.490 0.862
%	2-3	1-2	95-97	100

2. Inventories. See separate file (“Selected LCI fruits and vegetables FST”). References to all specific numbers of the inventory of each single crop are indicated there.

3. Yields / Land use. Exact growing times are considered for the analyses even if the land is fallow before or after the cultivation of melons, pineapples and vegetables. No transformation of the land is included given that the fruits and vegetables are grown on long time existing crop lands, especially in Europe where most of the crops are produced in this study. The underlying classification for the ecoinvent processes used are CORINE

21 (agricultural crop land), CORINE 211 (agricultural crop land, non-irrigated) and CORINE 222a (permanent crops, orchard or berry orchard)[2, 3] for the different crops.

4. Vegetable seedlings. The substrata are made from peat, which is – for Europe – mostly mined in the Baltic states, Poland and Russia[4] but also in Finland and Ireland.[5] For the vegetables grown in Switzerland or in countries north of Switzerland (Belgium, Germany, Slovakia and the Netherlands) it was assumed that 30 g peat / seedling would be transported to the Netherlands, where the seedlings are produced in heated greenhouses. Afterwards they are transported to the horticultural farms (100 g / seedling with moisture and container). For the vegetables grown south of Switzerland (Morocco included) the peat (30 g peat / seedling) was transported to the according destinations where the seedlings were produced in unheated greenhouses. The weight of the seedlings was measured on the market of Zurich and furthermore calculated from information of a truck driver and horticulturist who transported seedlings. The weight of peat and especially of the seedlings was considered constant even if in reality they vary.
For vegetable productions overseas it is assumed that they are produced on the sites where the crops are grown and the peat transport distance is assumed to be generally 4000 km[6, 7] for seedling production in USA (for peat from Alaska), Tasmania, Mexico and Peru. All transports are modeled with a truck > 32t EURO4-class.
In a heated seedling production a plant density of 774 seedlings / m^2 with a consumption of 1 l fossil fuel / m^2 and 5 weeks was assumed. The transport, peat and fossil fuel consumption is calculated per functional unit. Note that for onion, carrots, radish and spinach no seedlings were produced.

5. Fertilization. The amount of fertilizers applied, according to the tables with agricultural production means for cost calculations,[8] were used in the inventory. Specifications of providers[9, 10] were used to calculate the amount of active ingredients. Single nutrient fertilizers were chosen to avoid overlapping. Exact numbers are given in the inventory tables for each crop.

6. Mulch film. Covering the soil with mulch films in order to deprive the weed of light and water is a common biological weed control. Another reason for the use of mulch films is the thermal control of the soil, favoring a better microclimate for the plants. This technique is used in melon, strawberry, banana and pineapple production, and it was modeled with a polyethylene film (190 kg / ha)[11] including its disposal with different techniques in different countries. The disposal of the mulch film, used in melon, strawberry, banana and pineapple production is modeled according to scheme in table S2.

Table S2: % of waste treated in landfills, incineration and recycling plants in the four countries where melon, strawberry, banana and pineapple production is modeled.[12]

Waste treated in (in %)	landfill	incineration	recycling
Spain	53	6	41
France	36	34	30
Italy	55	11	34
Greece	87	0	13

7. Flame treatment. Flame treatment is used to control weed and soil borne pests. It was modeled for eggplant, cucumber, lettuce, bell pepper, radish and tomatoes by using the representative ecoinvent process “Heat natural gas, at boiler modulating <100 kW/RER”. The consumption of gas was assumed to be 50 kg gas / ha treated area.[13] and the calorific value of 45.4 MJ / kg gas was used to model the energy input.[14] If the flame treatment is only used once in a few years the amount of gas applied is divided accordingly.

8. Farm machinery use. For fruit production, machine use is modeled using the number of times farm machinery is used to treat a particular crop during the growing season. In ecoinvent, farm machinery use is expressed in units of area treated per functional unit, and we could use the number of machinery applications and the crop yield to calculate machinery input per functional unit.

For vegetable production, machine use was based on data from farmer time budgets. Farmer time was then transformed using information on tractor working life and fuel consumption, see equation (1):

$$a_{FUcrop} = \frac{\frac{m_t}{m_{1h}}}{t_m} \cdot t_{crop} \quad [ha\,kg^{-1}]$$

with

a_{FUcrop} = area treated per kg of crop $[ha\ kg^{-1}]$

m_t = 3000 kg, the total mass of machine[15] $[kg]$

m_{1h} = 0.687 kg, mass of tractor used to treat 1 ha of agricultural land[15] $[kg\ ha^{-1}]$

t_m = 7000 h, working time per one machine life[15] $[h]$

t_{crop} = specific hours of machine work per kg of crop produced[8] $[h\ kg^{-1}]$

9. Heating oil use in greenhouses. In order to show seasonality related variability of fuel consumption a time-dependent energy use model for heated greenhouse production for different types of greenhouses, locations and types of crops was developed and applied.[16] The model was built on the basis of SIA 380/1 norms[17] using energy balance equations for buildings:

$$Q_{heating} = Q_{trans} + Q_{air} - f \cdot Q_{solar} \ [W]$$

$$Q_{trans} = \sum k_j A_j \ (T_{in} - T_{out}) \ [W]$$

$$Q_{air} = n \, V \left(\rho c_p\right) (T_{in} - T_{out}) \ [W]$$

$$Q_{solar} = G \ A_w \left(f_g \tau f_s\right) \ [W]$$

with

$Q_{heating}$ = heating demand of a building (W)

Q_{trans}= heat transmitted through the walls (W)

Q_{air} = heat lost due to air exchange from the inside to the outside of the building (W)

Q_{solar} = heat gains from the solar irradiation (W)

f = solar heat gain coefficient (SHGC) which indicate the fraction of solar irradiation that is directly transmitted through the window or absorbed by the window and released inwards the building (-)

k_j = U-value = heat transfer coefficient through a composite element ($W/m^2/K$)

A_j = total cladding area (m^2)

T_{in} = inside temperature (K)

T_{out} = outside temperature (K)

n = air exchange number, i.e. the number of times the entire volume of air is replaced per hour in a building (1/h)

V = volume of the building (m^3)

ρc_p = 0.32 and is the specific volumetric energy constant for air ($W/m^3/K$)

G = global solar irradiation (W/m^2)

A_w = area of the windows exposed to the sun and was assumed to be the ground area of the greenhouse in our model (m^2)

f_g = glass fraction of the window (-)

τ = transmissivity of the glass for visible radiation (≈0.9)

f_s = reduction by shading or impurities on the window (typically 0.6-0.8)

From this model the total heating demand for the specific crop period (from t_{plant} to $t_{harvest}$) can be calculated per kg of crop. T_{in}, T_{out} and G vary over the growing time. $Q_{heating}$ is calculated using monthly average values and summed up over the growing period. The total heating demand is finally divided by the yield.[16]

For the modeling of lettuce in the example following parameters from a greenhouse in Hinwil, Switzerland were used:

GLOBALS as described in the master thesis[16]		
α_i	alpha_in=8	heat transfer coefficient inside
α_{out}	alpha_out=20	heat transfer coefficient outside
f	fract_use_heat=0.609	fractional use of heat gains
τ	tau=0.9	transmissivity of glass (assumed to be constant)
f_s	0.7	reduction by shading impurities on the window
	Q_internal=0	[W/m²]
f_g	glass_fraction_greenhouse=0.99	[%]
$\rho\ c_p$	0.32	specific volumetric energy constant for air [W/m³K]
DEFAULT VALUES		
A_w	ground_area_greenhouse=46800 [18]	[m²]
V	volume_greenhouse=259506 [18]	[m³]
A_j	total_area_greenhouse=54978.2 [18]	[m²]
d_i	thickness_wall=0.0225 [16]	[m]
λ_i	lambda_wall=0.9 [16]	conductivity of window [W/mK]
n	n=0.24 [19]	ventilation rate (x/h) [-]
T_{in}	temp_in=12 [20]	optimal growing temp [°C]
	crop_time=3 [8]	month growing
$Y_{harvest}$	crop_yield=195897 [8]	[kg]
T_{out}	temperature_jan=0.1 [21] temperature_feb=1.9 temperature_mar=5.4 temperature_apr=8.9 temperature_may=13.9	[°C]

	temperature_jun=17.2 temperature_jul=18.7 temperature_aug=18.3 temperature_sep=14.3 temperature_oct=10.7 temperature_nov=4.5 temperature_dec=1.2	
G	solarrad_jan=72 solarrad_feb=107 solarrad_mar=157 solarrad_apr=192 solarrad_may=203 solarrad_jun=219 solarrad_jul=229 solarrad_aug=211 solarrad_sep=168 solarrad_oct=124 solarrad_nov=75 solarrad_dec=57	[W/m^2] [21]

10. Irrigation. Irrigation data for all crops from different locations were not available from one source. Therefore table S3 presents the specific sources. "Numbers in black" were calculated according to the method presented in Pfister et al.[22] using yields from the LCI. "Numbers in green" use the crop water requirement data from Chapagain and Hoekstra,[23] and deduct an average amount of rainfall[24] during the specific cropping period or nothing if it's a greenhouse production, to estimate irrigation water consumption. "Numbers in green" for productions in Switzerland use irrigation data from szg.[8] "Numbers in blue" are calculated as a proxy using the irrigation and yield data from Chapagain and Hoekstra.[23]

Table S3: Source of irrigation data for every crop from different locations. The meaning of the colors (black, blue and green) is described in the text above.

Product	**Country of origin**	**m^3 / kg**
Banana	Costa Rica	0.106
Banana	Ecuador	0.142
Banana	Columbia	0.079
Strawberry	France	0.247
Strawberry	Switzerland	0.007
Strawberry	Spain	0.230
Lettuce	Belgium	0.078
Lettuce	France	0.109
Lettuce	Italy	0.185
Lettuce	The Netherlands	0.062
Lettuce	Switzerland	0.016

Lettuce	Spain	0.006
Leek, onion, carrot	Italy	0.048
Leek, onion, carrot	Spain	0.073
Avocado	Chile	0.000
Avocado	Israel	0.932
Avocado	Peru	0.876
Avocado	Spain	0.598
Avocado	South Africa	0.721
Kiwi	Italy	0.126
Kiwi	New Zealand	0.080
Pineapple	Costa Rica	0.022
Pineapple	Ecuador	0.299
Pineapple	Ghana	0.013
Asparagus	Costa Rica	0.854
Asparagus	France	2.028
Asparagus	Greece	2.113
Asparagus	Holland / Deutschland	0.398
Asparagus	Israel	3.213
Asparagus	Morocco	3.386
Asparagus	Mexico	3.777
Asparagus	Middle America	3.777
Asparagus	Peru	1.424
Asparagus	Switzerland	0.013
Asparagus	Spain	1.952
Asparagus	Hungary	1.136
Fennel, cauliflower, broccoli	France	0.062
Fennel, cauliflower, broccoli	Italy	0.090
Fennel, cauliflower, broccoli	Spain	0.166
Spinach	Italy	0.014
Spinach	Switzerland	0.008
Spinach	Spain	0.037
Broccoli	Italy	0.073
Broccoli	Switzerland	0.033
Broccoli	Spain	0.012
Fennel	Italy	0.140
Fennel	Switzerland	0.050
Fennel	Spain	0.320
Cauliflower	Italy	0.056
Cauliflower	Switzerland	0.026
Cauliflower	Spain	0.056
Potato	Other countries	0.179
Potato	Israel	0.190

Potato	Morocco	0.325
Potato	Switzerland	0.000
Potato	Spain	0.202
Apple	New Zealand	0.070
Apple	Switzerland	0.020
Pear	Switzerland	0.028
Pear	South Africa	0.238
Melon	France	0.032
Melon	Italy	0.039
Melon	North Africa	0.223
Melon	Spain	0.065
Melon	South America	0.080
Grape	France	0.093
Grape	Greece	0.187
Grape	Italy	0.107
Grape	North Africa	0.360
Grape	Spain	0.199
Grape	South Africa	0.236
Grape	South America	0.056
Citrus	Argentina	0.050
Citrus	Florida	0.147
Citrus	Israel	0.218
Citrus	Italy	0.062
Citrus	Spain	0.148
Citrus	South Africa	0.238
Eggplant	The Netherlands	0.008
Eggplant	Switzerland	0.050
Eggplant	Spain	0.152
Green bell pepper	The Netherlands	0.021
Green bell pepper	Switzerland	0.038
Green bell pepper	Spain	0.005
Zucchini	The Netherlands	0.005
Zucchini	Switzerland	0.016
Zucchini	Spain	0.010
Tomato	Italy	0.106
Tomato	Morocco	0.013
Tomato	The Netherlands	0.008
Tomato	Switzerland	0.002
Tomato	Spain	0.010
Tomato	Italy	0.106
Tomato	Morocco	0.092
Tomato	The Netherlands	0.008

Tomato	Switzerland	0.002
Tomato	Spain	0.009
Cucumber	Italy	0.161
Cucumber	Morocco	0.133
Cucumber	The Netherlands	0.008
Cucumber	Switzerland	0.030
Cucumber	Spain	0.064

11. Distances and means of transportation. The transportation scheme contains generally one to four transportation steps. The fourth step comprises generally 100 km fine distribution within Switzerland per kg of product. Steps 1-3 are assembled depending on the country of origin and the transportation mode. As an example the transportation of a product from Peru is described as follows: The 1^{st} step is the transport from the place of production to the port or the airport, the 2^{nd} step is the oversea travel by ship or airplane, in case of transportation by ship there is a 3^{rd} step from the port to Switzerland by truck and the 4^{th} step is the fine distribution within Switzerland. The scheme is presented in table S4. The distances are measured with online tools[6, 25-28] and are presented in table S5.

Table S4: Scheme with means and routes of transportation for the fruits and vegetables from the place of production to the point of sale.

			Products from Switzerland (CH)	**Products from Europe (EU)**	**Products from Overseas**	
1st step	truck				place of production → (air)port	
2nd step	ship	air-plane			port → Rotterdam or Genoa	airport → CH
3rd step	truck			place of production → CH	Genoa or Rotterdam → CH	
4th step	truck		overall 100 km in CH to the point of sale	overall 100 km in CH to the point of sale	overall 100 km in CH to the point of sale	

Table S5: Transportation means and distances.

1st step		2nd step		2nd step		3rd step		4th step	
truck		**ship**		**airplane**		**truck**		**truck**	
place of production to port / airport	**km**	**port country of origin to port Europe (Rotterdam / Genoa)**	**km**	**airport country of origin to airport Switzerland**	**km**	**port Europe (Rotterdam / Genoa) or place of production in Europe to Switzerland**	**km**	**general distribution distance within Switzerland**	**km**
Argentina (general)	600	Argentina (Comodoro Rivadavia - Rotterdam)	12'973			Argentina (Rotterdam - CH)	758		
						Belgium	640		
Brazil (Birigui - Paranagua)	700	Brazil (Paranagua - Rotterdam)	10'282			Brazil (Rotterdam - CH)	758		
Brazil (Birigui - Paranagua airport)	900			Brazil Flug (Paranagua - CH)	9'926				
Caribbean (general)	150	Caribbean (Dom.Rep.Barahona - Rotterdam)	7'604			Caribbean (Rotterdam - CH)	758		
Chile (general)	500	Chile (Valparaiso - Rotterdam)	13'807			Chile (Rotterdam - CH)	758		
Colombia (general)	50	Colombia (Santa Marta - Rotterdam)	8'293			Colombia (Rotterdam - CH)	758		
Costa Rica (general)	100	Costa Rica (Quepos - Rotterdam)	9'738			Costa Rica (Rotterdam - CH)	758		
Ecuador (general)	400	Ecuador (Guayaquil - Rotterdam)	10'514			Ecuador (Rotterdam - CH)	758		
Egypt (general)	500	Egypt (Alexandria - Genoa)	2'345	Egypt (Alexandria - CH)	2'567	Egypt (Genoa - CH)	444		
						France	733		
						Germany	729		
Ghana (general)	100	Ghana (Tema - Rotterdam)	7'358			Ghana (Rotterdam - CH)	758		
Greece (Grevena - Athens)	500	Greece (Athens - Genoa)	1'800			Greece (Genoa - CH)	444		
						Greece (Grevena - CH)	2'120		
						Hungary (Budapest - CH)	1'251		
India (general, around Patna - Calcutta)	500	India (Calcutta - Rotterdam)	14'747			India (Rotterdam - CH)	758	all products, all countries of origin	100
Israel (general)	100	Israel (Ashdod - Genoa)	2'782			Israel (Genoa - CH)	444		
						Italy	893		
Mexico (general)	200	Mexico (Guayamas - Rotterdam)	13'351	Mexiko Flug (Guaymas - CH via San Francisco)	10'903	Mexico (Rotterdam - CH)	758		
						Morocco	2'404		
						Netherlands	812		
New Zealand (general)	300	New Zealand (Wellington - Rotterdam)	20'987			New Zealand (Rotterdam - CH)	758		
Palestine (Karama, Jordanien - Haifa)	100	Palestine (Haifa - Genoa)	2'771			Palestine (Genoa - CH)	444		
Peru (Ica - Pisco)	100	Peru (Pisco - Rotterdam)	11'653			Peru (Rotterdam - CH)	758		
Peru (Ica - Lima)	300			Peru (Lima - CH)	10'680				
						Slovakia	1'044		
South Africa (Beaufort West - Cape Town)	434	South Africa (Cape Town - Rotterdam)	11'414			South Africa (Rotterdam - CH)	758		
						Spain (Valencia - Spreitenbach)	1'398		
Tasmania (general)	500	Tasmania (Devonport - Rotterdam)	20'683			Tasmania	758		
Uruguay (general)	300	Uruguay (Montevideo - Rotterdam)	11'564			Uruguay (Rotterdam - CH)	758		
USA (general)	200	USA (San Francisco - Rotterdam)	14'975	USA Flug (San Francisco - CH)	9'388	USA (Rotterdam - CH)	758		
USA Florida (Lakeland - Miami)	350	USA Florida (Miami - Rotterdam)	7'610			USA Florida (Rotterdam - CH)	758		

12. Cooling during transportation. Container transport is assumed to be the transportation mode. During the transportation all containers are cooled with a separate aggregate. To calculate the energy use, transportation time is needed which is calculated in the following way: The effective travel time is calculated from the velocity of the vehicle (table S6) and the particular distance and the different steps are summed up. Waiting times are included by generally adding 24 h at every change of vehicle, but max. 48 h.

Table S6: Assumed velocities of transportation vehicles.

Means of transport	**Average velocity**
Truck in western countries	50 km / h
Truck in emerging economies	40 km / h
Freight ship	37 km / h
Airfreight	flight time according to flight schedules from air flight companies
Waiting time	24 h at each vehicle change (max. 48 h)

13. Electricity use for storage. According to the literature[29] the energy use for apple storage at 1 °C is 5.4 MJ / t / day. Most of the crops are stored at this temperature. This information was used to estimate an energy use for all the crops, but at their ideal storage temperature and the maximal storage time.[20, 30-34] Detailed information is shown in table S7. The values used for storage correspond to the energy use in storages (20 – 105 kWh / m^3*a), shown in the literature.[35]

Table S7: Storage time, temperature and storage energy per kg of crop.

	Maximum storage time in months (30 days)	Storage temperature in °C	Storage energy MJ/t/day	kWh / kg product / max. storage time	Reference
Eggplant	0.3	8-10	2.7	0.0075	estimated
Cauliflower	1	(-0.5)-0	5.4	0.0450	27
Broccoli	1	0-0.5	5.4	0.0450	27
Fennel	0.75	0-1	5.4	0.0345	27
Cucumber	0.3	11	2.7	0.0075	estimated
Cabbage	3-6	1-2	5.4	0.2025	27
Carrot	7	0-1	5.4	0.3150	27
Lettuce	0.3	0-1	5.4	0.0150	27
Radish	0.3	0-1	5.4	0.0150	27
Celery root	7	0-(-0.5)	5.4	0.3150	27
White asparagus	0.03-0.06	2-4	4	0.0022	estimated
Green asparagus	0.03-0.06	2-4	4	0.0022	estimated
Spinach	0.15	-1-(-0.5)	5.4	0.0075	27
Zucchini	0.24	7-10	2.7	0.0053	estimated
Onion	>5	0	5.4	0.3150	27
Bell pepper	0.5	8-9	2.7	0.0113	estimated
Tomato	0.5	10-12	2.7	0.0113	estimated
Potato	8	4-5	4	0.2667	estimated
Apple	5	-1	5.4	0.2250	27
Pear	7	-1	5.4	0.3150	27
Grape	2	-0.5	5.4	0.0900	27
Melon	0.6	5	2.7	0.0150	estimated
Citrus	2.1	9	2.7	0.0488	estimated
Strawberry	0.2	-1	5.4	0.0075	27
Banana	0.9	13	1.9	0.0148	estimated
Kiwi	8	0	5.4	0.3600	27
Avocado	0.9	8	3.2	0.0249	estimated
Papaya	1	10	2.7	0.0225	estimated
Pineapple	0.6	9.75	2.7	0.0128	estimated

14. ReCiPe Results. See table S8.

Table S8: Results of all LCI assessed with ReCiPe (H/A).[36] GH = greenhouse, cells are highlighted using a color scale with red indicating high values and green indicating low values and the results are ordered from the highest to the lowest sum.

Method		ReCiPe Endpoint (H) V1.05 / World ReCiPe H/A																	
Impact categorie		Sum	Climate change Human Health	Ozone depletion	Human toxicity	Photochemical oxidant formation	Particulate matter formation	Ionising radiation	Climate change Ecosystems	Terrestrial acidification	Freshwater eutrophication	Terrestrial ecotoxicity	Freshwater ecotoxicity	Marine ecotoxicity	Agricultural land occupation	Urban land occupation	Natural land transformation	Metal depletion	Fossil depletion
Unit		Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt
Green asparagus (Air transport)	Mexico	1.49E+00	5.59E-01	1.30E-04	2.68E-02	7.78E-05	1.51E-01	1.31E-03	4.98E-02	1.60E-04	2.41E-05	3.32E-04	4.36E-06	1.13E-08	2.94E-02	7.29E-04	4.07E-03	2.58E-04	6.66E-01
Green asparagus (Air transport)	Peru	1.38E+00	5.25E-01	1.24E-04	1.79E-02	7.36E-05	1.39E-01	6.09E-04	4.67E-02	1.52E-04	1.61E-05	3.26E-04	3.41E-06	8.18E-09	2.89E-02	4.43E-04	3.93E-03	1.40E-04	6.20E-01
White asparagus (Air transport)	Peru	1.33E+00	5.10E-01	1.19E-04	1.49E-02	7.29E-05	1.33E-01	4.35E-04	4.54E-02	1.41E-04	1.26E-05	1.03E-04	2.51E-06	6.96E-09	1.74E-02	3.71E-04	3.89E-03	1.04E-04	6.09E-01
Green asparagus (Air transport)	USA	1.27E+00	4.80E-01	1.12E-04	2.10E-02	6.69E-05	1.30E-01	9.28E-04	4.27E-02	1.40E-04	1.91E-05	3.21E-04	3.71E-06	9.04E-09	2.91E-02	5.53E-04	3.50E-03	1.93E-04	5.67E-01
White asparagus (Air transport)	Costa Rica	1.19E+00	4.54E-01	1.06E-04	1.38E-02	6.55E-05	1.21E-01	4.15E-04	4.04E-02	1.27E-04	1.18E-05	9.61E-05	2.36E-06	6.36E-09	1.74E-02	3.43E-04	3.45E-03	9.96E-05	5.41E-01
Papaya (Air transport)	Brazil	1.16E+00	4.49E-01	1.07E-04	9.76E-03	6.40E-05	1.11E-01	1.76E-04	4.00E-02	1.15E-04	7.36E-06	5.80E-05	1.32E-06	4.98E-09	1.08E-03	2.32E-04	3.54E-03	3.99E-05	5.44E-01
Radish (GH heated)	Switzerland	4.91E-01	2.00E-01	5.32E-05	9.14E-03	9.74E-06	2.42E-02	1.97E-04	1.78E-02	2.81E-05	8.32E-06	1.91E-05	1.09E-06	3.40E-09	3.00E-04	7.87E-05	1.19E-03	6.79E-05	2.37E-01
Lettuce (GH heated)	Netherlands	4.48E-01	1.81E-01	4.76E-05	9.97E-03	9.34E-06	2.33E-02	2.29E-04	1.61E-02	2.66E-05	9.76E-06	1.83E-05	1.19E-06	3.71E-09	5.44E-04	8.82E-05	1.06E-03	6.78E-05	2.15E-01
Lettuce (GH heated)	Belgium	4.46E-01	1.81E-01	4.74E-05	9.97E-03	9.26E-06	2.32E-02	2.33E-04	1.61E-02	2.65E-05	9.77E-06	1.82E-05	1.19E-06	3.71E-09	5.46E-04	8.84E-05	1.05E-03	6.80E-05	2.14E-01
Lettuce (GH heated)	Switzerland	4.36E-01	1.77E-01	4.65E-05	9.56E-03	8.78E-06	2.22E-02	2.12E-04	1.57E-02	2.57E-05	9.42E-06	1.74E-05	1.15E-06	3.55E-09	5.33E-04	7.46E-05	1.04E-03	6.23E-05	2.10E-01
Iceberg lettuce (Air transport)	Egypt	3.21E-01	1.24E-01	2.93E-05	3.30E-03	1.82E-05	3.23E-02	7.36E-05	1.10E-02	3.32E-05	2.58E-06	1.66E-05	4.42E-07	1.58E-09	7.70E-04	8.05E-05	9.51E-04	2.04E-05	1.49E-01
Eggplant (GH heated)	Netherlands	3.05E-01	1.21E-01	3.02E-05	8.94E-03	6.84E-06	2.14E-02	1.97E-04	1.08E-02	2.98E-05	9.75E-06	1.93E-05	1.07E-06	3.39E-09	5.85E-04	6.23E-05	6.89E-04	4.88E-05	1.41E-01
Eggplant (GH heated)	Belgium	3.03E-01	1.20E-01	3.00E-05	8.89E-03	6.73E-06	2.12E-02	1.96E-04	1.07E-02	2.96E-05	9.72E-06	1.91E-05	1.06E-06	3.37E-09	5.85E-04	6.06E-05	6.85E-04	4.81E-05	1.40E-01
Eggplant (GH heated)	Switzerland	2.96E-01	1.18E-01	2.92E-05	8.86E-03	6.31E-06	2.05E-02	2.05E-04	1.05E-02	2.90E-05	9.72E-06	1.86E-05	1.05E-06	3.34E-09	5.91E-04	5.94E-05	6.67E-04	4.78E-05	1.36E-01
Green asparagus (freight ship transport)	Mexico	2.84E-01	8.83E-02	1.87E-05	1.79E-02	1.36E-05	4.37E-02	1.16E-03	7.85E-03	4.95E-05	1.79E-05	2.73E-04	3.19E-06	6.68E-09	2.93E-02	5.12E-04	3.14E-04	2.31E-04	9.39E-02
Green asparagus (freight ship transport)	USA	2.45E-01	7.63E-02	1.70E-05	1.35E-02	1.25E-05	4.00E-02	8.03E-04	6.79E-03	4.72E-05	1.39E-05	2.70E-04	2.72E-06	5.18E-09	2.91E-02	3.69E-04	2.89E-04	1.70E-04	7.73E-02
Green asparagus (freight ship transport)	Israel	2.42E-01	7.56E-02	1.62E-05	1.54E-02	1.05E-05	3.54E-02	9.81E-04	6.73E-03	4.12E-05	1.55E-05	2.70E-04	2.91E-06	5.66E-09	2.92E-02	4.36E-04	2.52E-04	1.99E-04	7.75E-02
White asparagus	Morocco	2.31E-01	7.37E-02	1.43E-05	1.56E-02	1.04E-05	3.10E-02	1.03E-03	6.56E-03	3.12E-05	1.48E-05	5.10E-05	2.35E-06	5.56E-09	1.78E-02	4.69E-04	2.64E-04	2.08E-04	8.47E-02
Cucumber (GH heated)	Netherlands	2.19E-01	8.83E-02	2.33E-05	4.61E-03	4.85E-06	1.19E-02	9.92E-05	7.86E-03	1.34E-05	4.40E-06	9.29E-06	5.52E-07	1.73E-09	2.02E-04	4.31E-05	5.20E-04	3.29E-05	1.05E-01
Cucumber (GH heated)	Belgium	2.18E-01	8.80E-02	2.32E-05	4.72E-03	4.79E-06	1.18E-02	1.11E-04	7.83E-03	1.33E-05	4.50E-06	9.21E-06	5.63E-07	1.76E-09	2.09E-04	4.65E-05	5.16E-04	3.44E-05	1.05E-01
Green asparagus	Spain	2.15E-01	6.80E-02	1.54E-05	1.26E-02	8.57E-06	2.97E-02	7.55E-04	6.05E-03	3.68E-05	1.30E-05	2.69E-04	2.62E-06	4.70E-09	2.91E-02	3.49E-04	2.31E-04	1.63E-04	6.74E-02
Green asparagus	Greece	2.13E-01	6.78E-02	1.59E-05	1.16E-02	8.62E-06	2.93E-02	6.62E-04	6.03E-03	3.65E-05	1.20E-05	2.69E-04	2.51E-06	4.38E-09	2.90E-02	3.17E-04	2.43E-04	1.50E-04	6.70E-02
Cucumber (GH heated)	Switzerland	2.09E-01	8.48E-02	2.22E-05	4.47E-03	4.29E-06	1.09E-02	1.03E-04	7.55E-03	1.26E-05	4.30E-06	8.52E-06	5.32E-07	1.65E-09	2.04E-04	3.80E-05	4.97E-04	3.10E-05	1.00E-01
Avocado	Chile	1.98E-01	6.25E-02	1.00E-04	1.38E-02	1.04E-05	3.25E-02	5.29E-04	5.56E-03	3.71E-05	1.39E-05	3.23E-05	2.08E-06	4.73E-09	7.41E-03	2.26E-04	3.15E-04	1.26E-04	7.44E-02
Green asparagus (freight ship transport)	Peru	1.97E-01	6.16E-02	1.46E-05	9.08E-03	1.01E-05	3.30E-02	4.61E-04	5.48E-03	4.15E-05	9.89E-06	2.67E-04	2.24E-06	3.61E-09	2.89E-02	2.28E-04	2.41E-04	1.12E-04	5.75E-02
Bell pepper (GH heated)	Belgium	1.79E-01	6.99E-02	1.61E-05	7.91E-03	4.35E-06	1.21E-02	2.19E-04	6.22E-03	1.33E-05	9.20E-06	8.13E-06	9.36E-07	2.87E-09	6.11E-04	6.11E-05	3.56E-04	3.97E-05	8.10E-02
Bell pepper (GH heated)	Netherlands	1.75E-01	6.89E-02	1.61E-05	7.33E-03	4.24E-06	1.17E-02	1.70E-04	6.13E-03	1.30E-05	8.66E-06	7.91E-06	8.75E-07	2.68E-09	5.80E-04	4.25E-05	3.56E-04	3.19E-05	7.95E-02
Avocado	Peru	1.71E-01	5.42E-02	9.85E-05	1.18E-02	8.86E-06	2.86E-02	3.79E-04	4.83E-03	3.37E-05	1.20E-05	3.06E-05	1.86E-06	4.00E-09	7.32E-03	1.62E-04	2.82E-04	9.97E-05	6.33E-02
Avocado	South Africa	1.69E-01	5.39E-02	9.87E-05	1.13E-02	8.92E-06	2.83E-02	3.35E-04	4.80E-03	3.36E-05	1.16E-05	3.05E-05	1.81E-06	3.84E-09	7.29E-03	1.46E-04	2.86E-04	9.32E-05	6.28E-02
Bell pepper (GH heated)	Switzerland	1.65E-01	6.54E-02	1.50E-05	7.19E-03	3.69E-06	1.06E-02	1.73E-04	5.82E-03	1.22E-05	8.57E-06	7.16E-06	8.56E-07	2.61E-09	5.83E-04	3.75E-05	3.33E-04	3.00E-05	7.50E-02
Avocado	Mexico	1.65E-01	5.23E-02	9.83E-05	1.07E-02	8.93E-06	2.85E-02	2.91E-04	4.65E-03	3.40E-05	1.11E-05	3.01E-05	1.75E-06	3.66E-09	7.26E-03	1.27E-04	2.83E-04	8.50E-05	6.04E-02
White asparagus	France	1.63E-01	5.17E-02	9.88E-06	1.00E-02	7.62E-06	2.35E-02	6.24E-04	4.59E-03	2.58E-05	9.90E-06	4.62E-05	1.75E-06	3.60E-09	1.76E-02	2.90E-04	1.81E-04	1.33E-04	5.46E-02
White asparagus (freight ship transport)	Peru	1.48E-01	4.65E-02	9.70E-06	6.11E-03	9.31E-06	2.69E-02	2.87E-04	4.14E-03	3.06E-05	6.43E-06	4.45E-05	1.34E-06	2.39E-09	1.74E-02	1.56E-04	2.05E-04	7.61E-05	4.62E-02
White asparagus (freight ship transport)	Costa Rica	1.45E-01	4.56E-02	9.52E-06	6.05E-03	8.95E-06	2.59E-02	2.85E-04	4.06E-03	2.95E-05	6.35E-06	4.44E-05	1.33E-06	2.35E-09	1.74E-02	1.55E-04	1.98E-04	7.59E-05	4.52E-02
White asparagus	Hungary	1.39E-01	4.46E-02	9.25E-06	6.89E-03	6.84E-06	2.06E-02	3.64E-04	3.97E-03	2.37E-05	7.01E-06	4.47E-05	1.42E-06	2.53E-09	1.74E-02	1.88E-04	1.72E-04	9.05E-05	4.48E-02
White asparagus	Slovakia	1.26E-01	4.04E-02	8.48E-06	5.67E-03	6.32E-06	1.91E-02	2.71E-04	3.59E-03	2.26E-05	5.91E-06	4.38E-05	1.29E-06	2.10E-09	1.74E-02	1.49E-04	1.58E-04	7.40E-05	3.89E-02
Tomato (GH heated)	Netherlands	1.13E-01	4.46E-02	1.12E-05	3.53E-03	2.91E-06	7.39E-03	7.88E-05	3.97E-03	8.04E-06	3.84E-06	1.01E-05	4.25E-07	1.39E-09	2.35E-04	2.92E-05	2.49E-04	2.03E-05	5.25E-02
Green asparagus	Switzerland	1.12E-01	3.57E-02	9.70E-06	3.11E-03	4.56E-06	1.81E-02	3.02E-05	3.17E-03	2.84E-05	4.71E-06	2.62E-04	1.60E-06	1.39E-09	2.86E-02	4.30E-05	1.27E-04	3.55E-05	2.31E-02
Tomato (GH heated)	Belgium	1.11E-01	4.40E-02	1.10E-05	3.53E-03	2.81E-06	7.22E-03	8.15E-05	3.91E-03	7.91E-06	3.84E-06	9.98E-06	4.23E-07	1.39E-09	2.37E-04	2.89E-05	2.44E-04	2.02E-05	5.16E-02
Vine tomato (GH heated)	Netherlands	1.08E-01	4.26E-02	1.07E-05	3.38E-03	2.80E-06	7.10E-03	7.53E-05	3.79E-03	7.72E-06	3.67E-06	9.66E-06	4.06E-07	1.33E-09	2.23E-04	2.84E-05	2.37E-04	1.95E-05	5.01E-02
White asparagus	Germany	1.07E-01	3.42E-02	7.32E-06	3.98E-03	5.55E-06	1.69E-02	1.43E-04	3.04E-03	2.11E-05	4.40E-06	4.25E-05	1.11E-06	1.51E-09	1.73E-02	9.41E-05	1.37E-04	5.12E-05	3.06E-02
Vine tomato (GH heated)	Belgium	1.06E-01	4.19E-02	1.05E-05	3.38E-03	2.71E-06	6.94E-03	7.80E-05	3.73E-03	7.59E-06	3.67E-06	9.51E-06	4.05E-07	1.33E-09	2.25E-04	2.81E-05	2.33E-04	1.95E-05	4.93E-02
Tomato (GH heated)	Switzerland	1.03E-01	4.10E-02	1.01E-05	3.36E-03	2.34E-06	6.32E-03	7.98E-05	3.65E-03	7.23E-06	3.72E-06	9.34E-06	4.01E-07	1.31E-09	2.36E-04	2.31E-05	2.25E-04	1.79E-05	4.77E-02
Onion (freight ship transport)	Tasmania	9.97E-02	3.25E-02	7.13E-06	4.63E-03	8.43E-06	2.17E-02	1.04E-04	2.89E-03	2.21E-05	5.64E-06	8.73E-06	5.86E-07	1.94E-09	1.12E-03	4.23E-05	1.72E-04	2.14E-05	3.65E-02
Kiwi	New Zealand	9.89E-02	3.18E-02	5.97E-06	5.28E-03	7.69E-06	2.12E-02	1.32E-04	2.83E-03	2.24E-05	6.75E-06	5.65E-06	7.10E-07	2.17E-09	2.16E-03	4.62E-05	1.86E-04	2.25E-05	3.52E-02
Vine tomato (GH heated)	Switzerland	9.76E-02	3.90E-02	9.61E-06	3.20E-03	2.23E-06	6.04E-03	7.59E-05	3.47E-03	6.90E-06	3.54E-06	8.87E-06	3.82E-07	1.25E-09	2.24E-04	2.22E-05	2.14E-04	1.71E-05	4.53E-02
Pear	Argentina	9.17E-02	2.92E-02	6.16E-06	5.62E-03	6.28E-06	1.63E-02	2.17E-04	2.60E-03	1.58E-05	6.65E-06	7.94E-06	7.64E-07	2.20E-09	2.63E-03	8.23E-05	1.38E-04	3.70E-05	3.48E-02
Pear	New Zealand	9.13E-02	2.86E-02	6.15E-06	4.53E-03	7.53E-06	1.96E-02	1.20E-04	2.54E-03	1.97E-05	5.75E-06	7.41E-06	6.50E-07	1.91E-09	2.57E-03	4.22E-05	1.54E-04	1.95E-05	3.31E-02
Avocado	Israel	8.79E-02	2.87E-02	5.61E-06	5.35E-03	4.32E-06	1.41E-02	2.99E-04	2.55E-03	1.64E-05	5.56E-06	1.42E-05	9.28E-07	1.94E-09	7.28E-03	1.38E-04	1.29E-04	6.37E-05	2.93E-02
Apple	New Zealand	8.73E-02	2.72E-02	6.70E-06	3.76E-03	7.71E-06	1.96E-02	9.67E-05	2.42E-03	1.95E-05	4.63E-06	1.32E-05	5.53E-07	1.63E-09	2.12E-03	4.12E-05	1.56E-04	1.90E-05	3.19E-02
Onion (freight ship transport)	Peru	8.65E-02	2.96E-02	5.29E-06	4.19E-03	6.07E-06	1.66E-02	9.24E-05	2.63E-03	1.80E-05	4.45E-06	8.23E-06	5.68E-07	1.64E-09	1.14E-03	5.83E-05	1.22E-04	2.43E-05	3.20E-02
Pear	Chile	8.60E-02	2.74E-02	5.85E-06	5.00E-03	6.16E-06	1.60E-02	1.68E-04	2.44E-03	1.57E-05	6.10E-06	7.51E-06	6.97E-07	1.99E-09	2.60E-03	6.17E-05	1.34E-04	2.83E-05	3.22E-02
Apple	Argentina	8.60E-02	2.73E-02	6.64E-06	4.68E-03	6.40E-06	1.61E-02	1.79E-04	2.43E-03	1.54E-05	5.37E-06	1.36E-05	6.47E-07	1.86E-09	2.18E-03	7.56E-05	1.38E-04	3.41E-05	3.28E-02
White asparagus	Switzerland	8.32E-02	2.66E-02	5.67E-06	2.28E-03	4.52E-06	1.43E-02	2.30E-05	2.36E-03	1.92E-05	2.88E-06	4.09E-05	9.20E-07	9.06E-10	1.72E-02	3.92E-05	1.05E-04	2.84E-05	2.02E-02
Avocado	Spain	8.09E-02	2.72E-02	5.89E-06	4.26E-03	3.64E-06	1.17E-02	2.03E-04	2.42E-03	1.42E-05	4.50E-06	1.41E-05	8.16E-07	1.56E-09	7.22E-03	1.05E-04	1.31E-04	4.99E-05	2.75E-02
Apple	Chile	7.95E-02	2.52E-02	6.28E-06	3.97E-03	6.25E-06	1.57E-02	1.23E-04	2.24E-03	1.52E-05	4.74E-06	1.31E-05	5.71E-07	1.62E-09	2.14E-03	5.20E-05	1.34E-04	2.41E-05	2.99E-02
Pear	South Africa	7.94E-02	2.54E-02	5.41E-06	4.81E-03	5.43E-06	1.41E-02	1.59E-04	2.26E-03	1.39E-05	5.91E-06	7.21E-06	6.75E-07	1.89E-09	2.60E-03	5.69E-05	1.21E-04	2.66E-05	2.98E-02
Citrus	South Africa	7.92E-02	2.45E-02	3.57E-05	4.46E-03	5.56E-06	1.49E-02	1.05E-04	2.18E-03	1.56E-05	4.38E-06	4.27E-05	6.18E-07	5.72E-09	2.08E-03	4.96E-05	1.43E-04	3.25E-05	3.06E-02
Eggplant (GH)	Spain	7.71E-02	2.65E-02	4.19E-06	6.67E-03	2.99E-06	1.22E-02	1.82E-04	2.36E-03	1.83E-05	8.37E-06	1.11E-05	7.88E-07	2.52E-09	6.01E-04	5.14E-05	1.02E-04	2.82E-05	2.84E-02
Apple	South Africa	7.46E-02	2.38E-02	5.92E-06	3.96E-03	5.58E-06	1.41E-02	1.29E-04	2.11E-03	1.35E-05	4.71E-06	1.29E-05	5.69E-07	1.58E-09	2.15E-03	5.32E-05	1.22E-04	2.49E-05	2.82E-02
Bell pepper (GH)	Spain	6.94E-02	2.41E-02	3.90E-06	6.04E-03	2.47E-06	7.24E-03	1.42E-04	2.14E-03	7.48E-06	4.15E-04	2.11E-03	2.63E-04	5.14E-08	5.74E-04	3.11E-05	8.05E-05	1.93E-05	2.63E-02
Grape	India	6.83E-02	2.12E-02	5.57E-06	2.50E-03	5.88E-06	1.48E-02	7.64E-05	1.89E-03	1.48E-05	2.75E-06	3.72E-06	3.15E-07	1.09E-09	2.40E-03	4.18E-05	1.27E-04	1.79E-05	2.52E-02
Grape	Chile	6.74E-02	2.10E-02	5.50E-06	2.57E-03	5.67E-06	1.43E-02	8.41E-05	1.87E-03	1.43E-05	2.81E-06	3.72E-06	3.22E-07	1.11E-09	2.40E-03	4.47E-05	1.24E-04	1.93E-05	2.50E-02
Eggplant (GH)	Netherlands	6.47E-02	2.23E-02	3.14E-06	5.96E-03	2.42E-06	1.09E-02	1.37E-04	1.99E-03	1.73E-05	7.76E-06	1.02E-05	7.09E-07	2.26E-09	5.73E-04	2.83E-05	8.11E-05	1.87E-05	2.27E-02
Grape	South Africa	6.46E-02	2.02E-02	5.23E-06	2.79E-03	5.08E-06	1.29E-02	1.08E-04	1.80E-03	1.28E-05	2.99E-06	3.67E-06	3.44E-07	1.15E-09	2.42E-03	5.33E-05	1.14E-04	2.31E-05	2.42E-02
Fennel	Spain	6.42E-02	2.31E-02	5.34E-06	2.91E-03	3.60E-06	9.53E-03	1.19E-04	2.05E-03	1.05E-05	2.62E-06	3.98E-05	3.96E-07	1.07E-09	1.32E-03	7.32E-05	1.00E-04	3.49E-05	2.50E-02
Eggplant (GH)	Belgium	6.26E-02	2.16E-02	2.91E-06	5.91E-03	2.31E-06	1.07E-02	1.36E-04	1.92E-03	1.71E-05	7.72E-06	1.00E-05	7.03E-07	2.23E-09	5.73E-04	2.66E-05	7.63E-05	1.80E-05	2.17E-02
Papaya	India	6.22E-02	2.01E-02	4.75E-06	1.78E-03	5.59E-06	1.45E-02	4.91E-05	1.79E-03	1.54E-05	1.84E-06	3.54E-06	2.52E-07	8.42E-10	1.04E-03	3.64E-05	1.22E-04	1.52E-05	2.28E-02
Banana	Peru	6.01E-02	1.97E-02	4.17E-06	2.25E-03	4.74E-06	1.31E-02	9.63E-05	1.76E-03	1.45E-05	2.22E-06	3.51E-06	3.18E-07	9.84E-10	1.35E-03	5.32E-05	1.04E-04	2.30E-05	2.16E-02
Grape	Brazil	6.01E-02	1.90E-02	5.22E-06	2.17E-03	4.90E-06	1.20E-02	5.53E-05	1.69E-03	1.20E-05	2.40E-06	3.47E-06	2.78E-07	9.33E-10	2.39E-03	3.39E-05	1.13E-04	1.50E-05	2.26E-02
Lettuce (GH)	Italy	6.00E-02	2.13E-02	3.54E-06	5.53E-03	2.29E-06	6.61E-03	1.68E-04	1.89E-03	6.53E-06	6.90E-06	3.74E-06	6.55E-07	2.00E-09	5.47E-04	4.65E-05	6.90E-05	2.45E-05	2.38E-02
Bell pepper (GH)	Netherlands	5.99E-02	2.16E-02	3.11E-06	5.93E-03	2.13E-06	6.62E-03	1.43E-04	1.92E-03	7.00E-06	7.73E-06	3.57E-06	7.06E-07	2.14E-09	5.76E-04	2.71E-05	6.42E-05	1.78E-05	2.29E-02
Citrus	Argentina	5.97E-02	1.85E-02	4.68E-06	2.03E-03	5.35E-06	1.30E-02	4.48E-05	1.64E-03	1.29E-05	1.99E-06	3.74E-05	2.77E-07	5.01E-09	2.05E-03	3.17E-05	1.16E-04	1.54E-05	2.22E-02
Onion	Spain	5.93E-02	2.12E-02	4.69E-06	4.06E-03	2.92E-06	7.68E-03	9.71E-05	1.88E-03	7.80E-06	4.92E-06	7.40E-06	5.13E-07	1.49E-09	1.12E-03	3.60E-05	8.40E-05	2.08E-05	2.31E-02
Pineapple	Ecuador	5.92E-02	1.86E-02	4.42E-06	2.32E-03	4.63E-06	1.20E-02	1.08E-04	1.65E-03	1.24E-05	2.30E-06	3.05E-05	3.84E-07	1.02E-09	1.71E-03	5.89E-05	1.05E-04	2.46E-05	2.25E-02
Banana	Ecuador	5.82E-02	1.94E-02	4.31E-06	1.88E-03	4.68E-06	1.25E-02	6.27E-05	1.72E-03	1.39E-05	1.85E-06	3.48E-06	2.79E-07	8.49E-10	1.33E-03	4.18E-05	1.05E-04	1.83E-05	2.11E-02
Lettuce (GH)	Netherlands	5.79E-02	2.08E-02	3.62E-06	5.12E-03	2.16E-06	6.13E-03	1.32E-04	1.85E-03	6.26E-06	6.52E-06	3.60E-06	6.12E-07	1.86E-09	5.25E-04	3.29E-05	7.11E-05	1.89E-05	2.32E-02
Bell pepper (GH)	Belgium	5.78E-02	2.08E-02	2.88E-06	5.88E-03	2.02E-06	6.42E-03	1.43E-04	1.85E-03	6.84E-06	7.70E-06	3.41E-06	7.01E-07	2.12E-09	5.76E-04	2.56E-05	5.95E-05	1.72E-05	2.20E-02
Citrus	Brazil	5.68E-02	1.78E-02	4.55E-06	2.08E-03	4.82E-06	1.16E-02	5.25E-05	1.58E-03	1.13E-05	2.01E-06	3.74E-05	2.82E-07	4.99E-09	2.05E-03	3.50E-05	1.09E-04	1.71E-05	2.15E-02
Melon	Brazil	5.65E-02	1.84E-02	4.84E-06	1.66E-03	4.83E-06	1.19E-02	4.57E-05	1.63E-03	1.22E-05	1.60E-06	3.49E-06	2.57E-07	8.31E-10	6.39E-04	3.57E-05	1.10E-04	1.50E-05	2.21E-02
Lettuce (GH)	Belgium	5.64E-02	2.03E-02	3.41E-06	5.13E-03	2.08E-06	6.00E-03	1.36E-04	1.80E-03	6.15E-06	6.53E-06	3.46E-06	6.12E-07	1.86E-09	5.27E-04	3.31E-05	6.67E-05	1.90E-05	2.24E-02
Papaya	Brazil	5.61E-02	1.85E-02	4.52E-06	1.58E-03	4.79E-06	1.21E-02	3.81E-05	1.65E-03	1.28E-05	1.61E-06	3.40E-06	2.30E-07	7.27E-10	1.03E-03	3.27E-05	1.10E-04	1.40E-05	2.10E-02
Eggplant (GH)	Switzerland	5.58E-02	1.91E-02	2.07E-06	5.88E-03	1.89E-06	9.93E-03	1.45E-04	1.69E-03	1.65E-05	7.72E-06	9.50E-06	6.96E-07	2.20E-09	5.79E-04	2.53E-05	5.86E-05	1.77E-05	1.83E-02
Lettuce (GH)	France	5.53E-02	1.97E-02	3.20E-06	5.20E-03	2.09E-06	6.10E-03	1.44E-04	1.75E-03	6.16E-06	6.61E-06	3.41E-06	6.19E-07	1.88E-09	5.33E-04	3.58E-05	6.25E-05	2.00E-05	2.17E-02
Kiwi	Italy	5.52E-02	1.93E-02	3.12E-06	4.69E-03	2.03E-06	6.82E-03	1.30E-04	1.72E-03	7.76E-06	6.03E-06	4.05E-06	6.33E-07	1.70E-09	2.16E-03	3.94E-05	8.93E-05	2.17E-05	2.02E-02
Carrots	Spain	5.47E-02	1.94E-02	4.59E-06	4.12E-03	2.39E-06	6.49E-03	1.13E-04	1.73E-03	6.55E-06	4.99E-06	1.04E-05	5.14E-07	1.51E-09	8.33E-04	3.93E-05	7.41E-05	2.09E-05	2.18E-02
Cucumber (GH)	Morocco	5.47E-02	1.95E-02	4.49E-06	3.22E-03	2.55E-06	6.01E-03	9.77E-05	1.73E-03	5.42E-06	3.61E-06	4.05E-06	3.81E-07	1.21E-09	2.20E-04	4.77E-05	9.11E-05	2.20E-05	2.37E-02
Broccoli	Spain	5.46E-02	2.08E-02	4.55E-06	1.81E-03	3.33E-06	8.81E-03	3.00E-05	1.85E-03	1.06E-05	1.62E-06	6.45E-06	2.35E-07	6.78E-10	9.19E-04	3.40E-05	9.11E-05	1.92E-05	2.02E-02
Vine tomato (GH)	Morocco	5.44E-02	1.94E-02	4.50E-06	3.22E-03	2.52E-06	6.00E-03	8.86E-05	1.73E-03	5.49E-06	3.67E-06	8.57E-06	3.85E-07	1.29E-09	2.39E-04	4.35E-05	9.20E-05	2.04E-05	2.36E-02
Onion	Italy	5.32E-02	1.90E-02	3.99E-06	3.94E-03	2.59E-06	7.07E-03	9.68E-05	1.69E-03	7.32E-06	4.83E-06	6.91E-06	4.97E-07	1.43E-09	1.12E-03	3.18E-05	6.98E-05	1.92E-05	2.02E-02
Tomato (GH)	Morocco	5.29E-02	1.90E-02	4.44E-06	3.02E-03	2.50E-06	5.89E-03	6.77E-05	1.69E-03	5.44E-06	3.54E-06	8.71E-06	3.66E-07	1.23E-09	2.36E-04	3.43E-05	9.15E-05	1.67E-05	2.28E-02
Citrus	Uruguay	5.24E-02	1.62E-02	4.04E-06	1.89E-03	4.61E-06	1.14E-02	4.24E-05	1.44E-03	1.14E-05	1.87E-06	3.70E-05	2.60E-07	4.93E-09	2.04E-03	2.80E-05	1.01E-04	1.41E-05	1.92E-02
Cauliflower	Spain	5.11E-02	1.93E-02	4.15E-06	1.83E-03	2.99E-06	8.01E-03	4.13E-05	1.72E-03	9.60E-06	1.69E-06	5.60E-06	2.41E-07	6.86E-10	1.01E-03	3.62E-05	8.39E-05	1.95E-05	1.90E-02
Banana	Costa Rica	5.10E-02	1.70E-02	3.69E-06	1.63E-03	4.06E-06	1.12E-02	5.02E-05	1.51E-03	1.27E-05	1.63E-06	3.02E-06	2.50E-07	7.45E-10	1.32E-03	3.41E-05	9.16E-05	1.52E-05	1.80E-02
Fennel	Italy	5.04E-02	1.84E-02	4.21E-06	2.06E-03	2.96E-06	8.04E-03	6.32E-05	1.64E-03	9.33E-06	1.88E-06	3.88E-05	3.02E-07	7.63E-10	1.28E-03	4.56E-05	7.82E-05	2.35E-05	1.87E-02
Melon	Morocco	5.03E-02	1.76E-02	4.93E-06	2.11E-03	2.45E-06	5.90E-03	8.50E-05	1.57E-03	5.82E-06	1.87E-06	3.95E-06	3.04E-07	8.87E-10	6.66E-04	5.69E-05	9.21E-05	2.46E-05	2.21E-02
Bell pepper (GH)	Switzerland	5.01E-02	1.81E-02	2.01E-06	5.76E-03	1.58E-06	5.58E-03	1.45E-04	1.61E-03	6.20E-06	7.61E-06	2.80E-06	6.84E-07	2.06E-09	5.77E-04	2.12E-05	4.12E-05	1.56E-05	1.83E-02
Strawberry	Egypt	5.01E-02	1.60E-02	3.89E-06	2.40E-03	2.91E-06	7.67E-03	1.25E-04	1.43E-03	8.00E-06	2.35E-06	1.12E-05	4.49E-07	1.07E-09	2.92E-03	6.35E-05	7.26E-05	2.80E-05	1.93E-02
Broccoli	Italy	4.96E-02	1.89E-02	3.86E-06	1.86E-03	3.02E-06	8.33E-03	4.51E-05	1.68E-03	1.02E-05	1.70E-06	6.02E-06	2.38E-07	6.82E-10	9.29E-04	3.56E-05	7.66E-05	2.00E-05	1.77E-02
Melon	Caribbean	4.92E-02	1.60E-02	1.52E-05	2.01E-03	3.64E-06	9.76E-03	3.79E-05	1.42E-03	1.07E-05	1.99E-06	4.58E-06	3.21E-07	8.68E-10	6.34E-04	2.57E-05	9.32E-05	1.47E-05	1.92E-02
Citrus	USA Florida	4.85E-02	1.52E-02	3.77E-06	2.13E-03	3.78E-06	9.32E-03	6.82E-05	1.35E-03	9.11E-06	2.05E-06	3.70E-05	2.83E-07	4.97E-09	2.06E-03	3.80E-05	8.76E-05	1.87E-05	1.82E-02
Grape	Egypt	4.78E-02	1.53E-02	3.96E-06	2.88E-03	2.79E-06	7.14E-03	1.37E-04	1.36E-03	6.77E-06	2.99E-06	3.06E-06	3.46E-07	1.06E-09	2.44E-03	6.11E-05	7.08E-05	2.73E-05	1.83E-02
Banana	Colombia	4.64E-02	1.57E-02	3.39E-06	1.46E-03	3.59E-06	1.00E-02	4.09E-05	1.39E-03	1.16E-05	1.47E-06	2.80E-06	2.31E-07	6.68E-10	1.32E-03	2.96E-05	8.30E-05	1.35E-05	1.63E-02
Lettuce (GH)	Switzerland	4.63E-02	1.68E-02	2.43E-06	4.71E-03	1.60E-06	5.01E-03	1.15E-04	1.49E-03	5.40E-06	6.18E-06	2.68E-06	5.64E-07	1.70E-09	5.14E-04	1.93E-05	4.73E-05	1.34E-05	1.76E-02
Carrots	Italy	4.63E-02	1.65E-02	3.80E-06	3.76E-03	1.98E-06	5.63E-03	9.32E-05	1.47E-03	5.89E-06	4.68E-06	9.77E-06	4.72E-07	1.37E-09	8.21E-04	2.73E-05	5.81E-05	1.60E-05	1.79E-02
Radish (GH)	Italy	4.52E-02	1.62E-02	2.78E-06	3.79E-03	1.99E-06	5.37E-03	9.33E-05	1.44E-03	5.22E-06	4.78E-06	2.74E-06	4.51E-07	1.38E-09	2.84E-04	2.53E-05	5.76E-05	1.50E-05	1.79E-02
Cauliflower	Italy	4.49E-02	1.71E-02	3.45E-06	1.69E-03	2.68E-06	7.45E-03	3.90E-05	1.52E-03	9.15E-06	1.58E-06	5.10E-06	2.23E-07	6.21E-10	1.01E-03	3.12E-05	6.99E-05	1.75E-05	1.60E-02
Strawberry	Spain	4.45E-02	1.48E-02	3.89E-06	1.88E-03	2.07E-06	5.50E-03	8.18E-05	1.32E-03	5.97E-06	1.85E-06	1.11E-05	3.70E-07	8.03E-10	2.89E-03	4.90E-05	6.90E-05	2.20E-05	1.78E-02
Pineapple	Costa Rica	4.40E-02	1.37E-02	3.45E-06	1.18E-03	3.78E-06	9.90E-03	2.43E-05	1.22E-03	1.07E-05	1.27E-06	2.96E-05	2.60E-07	6.13E-10	1.66E-03	2.23E-05	8.61E-05	9.42E-06	1.61E-02
Cauliflower	France	4.29E-02	1.63E-02	3.21E-06	1.65E-03	2.57E-06	7.24E-03	3.99E-05	1.45E-03	8.99E-06	1.56E-06	4.93E-06	2.18E-07	6.04E-10	1.01E-03	3.01E-05	6.48E-05	1.71E-05	1.50E-02
Celery root	Switzerland	4.28E-02	1.57E-02	2.80E-06	3.61E-03	1.77E-06	5.73E-03	8.28E-05	1.40E-03	6.96E-06	4.56E-06	1.78E-05	4.63E-07	2.20E-09	1.06E-03	1.97E-05	4.77E-05	1.38E-05	1.51E-02
Grape	Spain	4.16E-02	1.39E-02	3.94E-06	2.33E-03	1.93E-06	4.91E-03	8.96E-05	1.23E-03	4.69E-06	2.45E-06	2.93E-06	2.88E-07	8.57E-10	2.41E-03	4.50E-05	6.67E-05	2.07E-05	1.67E-02
Fennel	Switzerland	4.15E-02	1.55E-02	3.45E-06	1.57E-03	2.46E-06	6.93E-03	3.45E-05	1.38E-03	8.57E-06	1.45E-06	3.81E-05	2.47E-07	5.77E-10	1.27E-03	2.90E-05	6.32E-05	1.69E-05	1.46E-02
Strawberry	Greece	4.14E-02	1.34E-02	3.48E-06	1.57E-03	2.50E-06	6.44E-03	6.05E-05	1.19E-03	7.01E-06	1.59E-06	1.06E-05	3.53E-07	7.57E-10	2.88E-03	3.72E-05	6.45E-05	1.70E-05	1.58E-02
Grape	Greece	4.06E-02	1.31E-02	3.62E-06	2.22E-03	2.43E-06	6.08E-03	8.52E-05	1.17E-03	5.90E-06	2.39E-06	2.63E-06	2.75E-07	8.29E-10	2.41E-03	4.01E-05	6.39E-05	1.85E-05	1.54E-02
Onion	Switzerland	4.03E-02	1.44E-02	2.66E-06	3.54E-03	1.89E-06	5.68E-03	8.21E-05	1.28E-03	6.27E-06	4.50E-06	5.91E-06	4.49E-07	1.27E-09	1.11E-03	1.86E-05	4.24E-05	1.39E-05	1.41E-02
Broccoli	Switzerland	4.02E-02	1.57E-02	2.92E-06	1.52E-03	2.48E-06	7.23E-03	3.04E-05	1.39E-03	9.37E-06	1.42E-06	5.24E-06	1.98E-07	5.41E-10	9.20E-04	2.38E-05	5.76E-05	1.54E-05	1.33E-02
Tomato (GH)	Spain	4.01E-02	1.44E-02	3.03E-06	2.72E-03	1.83E-06	4.61E-03	6.20E-05	1.28E-03	4.45E-06	3.31E-06	7.69E-06	3.27E-07	1.09E-09	2.33E-04	2.39E-05	6.26E-05	1.26E-05	1.67E-02
Cucumber (GH)	Spain	3.99E-02	1.43E-02	3.00E-06	2.67E-03	1.85E-06	4.58E-03	7.26E-05	1.27E-03	4.31E-06	3.16E-06	2.90E-06	3.16E-07	9.89E-10	2.05E-04	2.94E-05	6.12E-05	1.46E-05	1.67E-02
Zucchini	Spain	3.98E-02	1.39E-02	3.59E-06	1.12E-03	2.79E-06	6.18E-03	1.79E-05	1.24E-03	5.66E-06	9.12E-07	2.83E-06	1.62E-07	4.38E-10	9.97E-04	2.95E-05	7.59E-05	1.55E-05	1.62E-02
Iceberg lettuce (freight ship transport)	Egypt	3.96E-02	1.36E-02	3.31E-06	1.27E-03	3.03E-06	6.98E-03	3.92E-05	1.21E-03	6.85E-06	1.15E-06	2.76E-06	1.71E-07	5.13E-10	7.60E-04	3.17E-05	7.23E-05	1.48E-05	1.56E-02
Kiwi	Switzerland	3.92E-02	1.38E-02	1.65E-06	3.95E-03	1.22E-06	5.07E-03	8.86E-05	1.23E-03	6.45E-06	5.40E-06	2.85E-06	5.50E-07	1.42E-09	2.14E-03	1.52E-05	5.95E-05	1.19E-05	1.28E-02
Vine tomato (GH)	Spain	3.92E-02	1.40E-02	2.99E-06	2.61E-03	1.80E-06	4.51E-03	5.94E-05	1.25E-03	4.34E-06	3.17E-06	7.38E-06	3.15E-07	1.05E-09	2.21E-04	2.36E-05	6.18E-05	1.23E-05	1.64E-02
Pineapple	Ghana	3.89E-02	1.23E-02	3.14E-06	1.06E-03	3.16E-06	8.29E-03	2.00E-05	1.09E-03	9.01E-06	1.15E-06	2.94E-05	2.46E-07	5.44E-10	1.66E-03	2.00E-05	7.55E-05	8.68E-06	1.43E-02
Tomato (GH)	Italy	3.72E-02	1.32E-02	2.49E-06	2.93E-03	1.64E-06	4.42E-03	8.80E-05	1.17E-03	4.27E-06	3.52E-06	7.41E-06	3.47E-07	1.15E-09	2.49E-04	3.04E-05	5.11E-05	1.55E-05	1.51E-02
Strawberry	France	3.72E-02	1.23E-02	3.00E-06	1.75E-03	1.69E-06	4.80E-03	8.38E-05	1.09E-03	5.41E-06	1.76E-06	1.04E-05	3.52E-07	7.38E-10	2.89E-03	4.44E-05	5.10E-05	2.03E-05	1.41E-02
Cucumber (GH)	Italy	3.71E-02	1.31E-02	2.46E-06	2.88E-03	1.66E-06	4.39E-03	9.88E-05	1.16E-03	4.12E-06	3.38E-06	2.62E-06	3.36E-07	1.05E-09	2.21E-04	3.60E-05	4.98E-05	1.75E-05	1.52E-02
Vine tomato (GH)	Italy	3.63E-02	1.28E-02	2.45E-06	2.83E-03	1.61E-06	4.31E-03	8.55E-05	1.14E-03	4.16E-06	3.38E-06	7.10E-06	3.35E-07	1.11E-09	2.38E-04	3.02E-05	5.03E-05	1.52E-05	1.48E-02
Iceberg lettuce	Spain	3.59E-02	1.29E-02	3.36E-06	1.02E-03	2.25E-06	5.03E-03	1.73E-05	1.15E-03	4.96E-06	8.88E-07	2.78E-06	1.46E-07	4.11E-10	7.47E-04	2.54E-05	6.91E-05	1.24E-05	1.49E-02
Citrus	Spain	3.58E-02	1.18E-02	3.15E-06	1.96E-03	1.75E-06	4.19E-03	6.45E-05	1.05E-03	3.87E-06	1.81E-06	3.67E-05	2.62E-07	4.82E-09	2.06E-03	3.71E-05	6.08E-05	1.90E-05	1.44E-02
Citrus	Catania (Sicily)	3.57E-02	1.20E-02	3.34E-06	1.71E-03	1.80E-06	4.14E-03	4.03E-05	1.07E-03	3.86E-06	1.57E-06	3.67E-05	2.36E-07	4.74E-09	2.05E-03	2.91E-05	6.52E-05	1.56E-05	1.46E-02
Lettuce	Italy	3.51E-02	1.24E-02	2.93E-06	1.42E-03	2.15E-06	5.22E-03	5.22E-05	1.10E-03	5.22E-06	1.26E-06	2.39E-06	1.80E-07	5.32E-10	6.65E-04	3.69E-05	6.01E-05	1.76E-05	1.41E-02
Cauliflower	Switzerland	3.47E-02	1.36E-02	2.41E-06	1.35E-03	2.11E-06	6.29E-03	2.65E-05	1.21E-03	8.30E-06	1.31E-06	4.28E-06	1.83E-07	4.83E-10	1.01E-03	1.98E-05	4.85E-05	1.31E-05	1.12E-02
Carrots	Switzerland	3.36E-02	1.20E-02	2.48E-06	3.38E-03	1.29E-06	4.26E-03	8.06E-05	1.07E-03	4.86E-06	4.38E-06	8.79E-06	4.27E-07	1.21E-09	8.14E-04	1.49E-05	3.09E-05	1.11E-05	1.19E-02
Citrus	Israel	3.36E-02	1.05E-02	2.45E-06	2.06E-03	2.10E-06	5.46E-03	8.29E-05	9.32E-04	5.29E-06	1.97E-06	3.62E-05	2.70E-07	4.87E-09	2.07E-03	3.84E-05	5.15E-05	1.95E-05	1.24E-02
Strawberry	Italy	3.33E-02	1.11E-02	2.96E-06	1.21E-03	1.56E-06	4.31E-03	3.84E-05	9.86E-04	5.08E-06	1.27E-06	1.02E-05	3.00E-07	5.68E-10	2.87E-03	2.73E-05	5.08E-05	1.31E-05	1.27E-02
Radish (GH)	Switzerland	3.30E-02	1.19E-02	1.48E-06	3.47E-03	1.32E-06	4.06E-03	8.42E-05	1.06E-03	4.22E-06	4.53E-06	1.80E-06	4.11E-07	1.24E-09	2.79E-04	1.44E-05	3.08E-05	1.06E-05	1.21E-02
Tomato (GH)	Netherlands	3.27E-02	1.17E-02	2.21E-06	2.54E-03	1.44E-06	3.87E-03	5.88E-05	1.04E-03	3.87E-06	3.17E-06	7.10E-06	3.05E-07	1.01E-09	2.31E-04	1.79E-05	4.59E-05	1.02E-05	1.31E-02
Melon	Spain	3.26E-02	1.15E-02	3.31E-06	1.22E-03	1.66E-06	4.16E-03	3.35E-05	1.03E-03	4.49E-06	1.12E-06	2.60E-06	1.90E-07	5.12E-10	6.34E-04	2.79E-05	6.04E-05	1.27E-05	1.39E-02
Pear	Switzerland	3.24E-02	1.08E-02	1.86E-06	3.29E-03	1.08E-06	3.57E-03	8.29E-05	9.60E-04	3.88E-06	4.47E-06	4.66E-06	4.99E-07	1.19E-09	2.55E-03	1.40E-05	2.81E-05	1.00E-05	1.11E-02
Grape	Italy	3.21E-02	1.06E-02	3.09E-06	1.84E-03	1.48E-06	3.91E-03	6.02E-05	9.42E-04	3.94E-06	2.03E-06	2.22E-06	2.33E-07	6.73E-10	2.39E-03	2.90E-05	4.99E-05	1.41E-05	1.22E-02
Zucchini	France	3.20E-02	1.11E-02	2.68E-06	9.97E-04	2.37E-06	5.42E-03	2.10E-05	9.88E-04	5.06E-06	8.35E-07	2.20E-06	1.45E-07	3.77E-10	9.99E-04	2.53E-05	5.72E-05	1.39E-05	1.24E-02
Zucchini	Netherlands	3.20E-02	1.12E-02	2.77E-06	9.29E-04	2.31E-06	5.25E-03	1.37E-05	9.95E-04	4.97E-06	7.69E-07	2.23E-06	1.38E-07	3.55E-10	9.94E-04	2.31E-05	5.85E-05	1.30E-05	1.25E-02
Strawberry	Palestine	3.19E-02	1.02E-02	2.72E-06	8.94E-04	2.05E-06	5.56E-03	1.21E-05	9.07E-04	6.52E-06	1.00E-06	9.89E-06	2.86E-07	5.45E-10	2.85E-03	1.45E-05	5.16E-05	7.51E-06	1.14E-02
Vine tomato (GH)	Netherlands	3.17E-02	1.14E-02	2.17E-06	2.44E-03	1.41E-06	3.76E-03	5.62E-05	1.01E-03	3.76E-06	3.03E-06	6.79E-06	2.93E-07	9.73E-10	2.19E-04	1.76E-05	4.50E-05	9.97E-06	1.28E-02
Cabbage for conserves	Switzerland	3.17E-02	1.16E-02	1.48E-06	3.24E-03	1.16E-06	3.93E-03	7.67E-05	1.03E-03	4.64E-06	4.24E-06	1.84E-06	3.88E-07	1.16E-09	4.44E-04	1.24E-05	2.94E-05	9.52E-06	1.12E-02
Lettuce	France	3.10E-02	1.10E-02	2.61E-06	1.15E-03	1.97E-06	4.78E-03	3.36E-05	9.81E-04	4.89E-06	1.02E-06	2.09E-06	1.51E-07	4.34E-10	6.54E-04	2.81E-05	5.40E-05	1.40E-05	1.23E-02
Cucumber (GH)	Netherlands	3.06E-02	1.10E-02	2.09E-06	2.29E-03	1.39E-06	3.62E-03	5.32E-05	9.79E-04	3.57E-06	2.84E-06	2.18E-06	2.72E-07	8.40E-10	1.93E-04	1.68E-05	4.30E-05	9.44E-06	1.24E-02
Tomato (GH)	Belgium	3.05E-02	1.10E-02	1.97E-06	2.49E-03	1.32E-06	3.65E-03	5.81E-05	9.75E-04	3.71E-06	3.14E-06	6.93E-06	2.99E-07	9.92E-10	2.31E-04	1.62E-05	4.10E-05	9.57E-06	1.21E-02
Spinach	Spain	3.00E-02	1.11E-02	2.75E-06	9.58E-04	1.62E-06	4.15E-03	2.24E-05	9.91E-04	4.75E-06	8.07E-07	2.18E-06	1.22E-07	3.75E-10	3.75E-04	2.43E-05	5.63E-05	1.14E-05	1.23E-02
Cucumber (GH)	Belgium	2.98E-02	1.07E-02	1.91E-06	2.38E-03	1.32E-06	3.56E-03	6.40E-05	9.48E-04	3.52E-06	2.94E-06	2.10E-06	2.82E-07	8.68E-10	2.00E-04	1.98E-05	3.92E-05	1.08E-05	1.19E-02
Vine tomato (GH)	Belgium	2.96E-02	1.06E-02	1.93E-06	2.39E-03	1.29E-06	3.55E-03	5.55E-05	9.45E-04	3.60E-06	3.00E-06	6.62E-06	2.86E-07	9.51E-10	2.19E-04	1.59E-05	4.02E-05	9.32E-06	1.18E-02
Red cabbage	Switzerland	2.88E-02	1.06E-02	1.65E-06	2.36E-03	1.21E-06	3.92E-03	5.47E-05	9.40E-04	4.81E-06	2.98E-06	8.92E-06	3.05E-07	1.33E-09	8.55E-04	1.37E-05	3.34E-05	9.37E-06	1.01E-02
Apple	Switzerland	2.86E-02	9.44E-03	2.43E-06	2.55E-03	1.27E-06	3.63E-03	6.17E-05	8.40E-04	3.62E-06	3.38E-06	1.04E-05	4.04E-07	9.22E-10	2.11E-03	1.39E-05	3.03E-05	9.83E-06	9.94E-03
White cabbage	Switzerland	2.81E-02	1.03E-02	1.60E-06	2.33E-03	1.17E-06	3.77E-03	5.42E-05	9.16E-04	4.61E-06	2.95E-06	8.42E-06	3.00E-07	1.29E-09	8.02E-04	1.32E-05	3.23E-05	9.02E-06	9.85E-03
Grape	France	2.72E-02	9.71E-03	2.84E-06	1.74E-03	1.36E-06	3.65E-03	5.51E-05	8.64E-04	3.74E-06	1.95E-06	2.02E-06	2.21E-07	6.34E-10	3.07E-05	2.57E-05	4.49E-05	1.27E-05	1.10E-02
Melon	Italy	2.53E-02	9.01E-03	2.56E-06	9.73E-04	1.29E-06	3.42E-03	2.35E-05	8.01E-04	3.93E-06	9.19E-07	2.03E-06	1.63E-07	4.17E-10	6.28E-04	1.98E-05	4.52E-05	9.48E-06	1.04E-02
Lettuce	Switzerland	2.35E-02	8.52E-03	1.91E-06	8.30E-04	1.53E-06	3.87E-03	1.75E-05	7.57E-04	4.25E-06	7.48E-07	1.47E-06	1.13E-07	3.06E-10	6.44E-04	1.71E-05	3.97E-05	9.60E-06	8.81E-03
Melon	France	2.32E-02	8.32E-03	2.33E-06	9.00E-04	1.18E-06	3.19E-03	2.08E-05	7.40E-04	3.75E-06	8.61E-07	1.86E-06	1.53E-07	3.82E-10	6.26E-04	1.73E-05	4.05E-05	8.51E-06	9.34E-03
Spinach	Italy	2.29E-02	8.61E-03	2.00E-06	7.25E-04	1.26E-06	3.43E-03	1.34E-05	7.66E-04	4.19E-06	6.20E-07	1.62E-06	9.41E-08	2.81E-10	3.70E-04	1.66E-05	4.13E-05	8.25E-06	8.87E-03
Zucchini	Switzerland	2.24E-02	7.71E-03	1.67E-06	7.33E-04	1.83E-06	4.36E-03	1.32E-05	6.86E-04	4.26E-06	6.29E-07	1.45E-06	1.13E-07	2.64E-10	9.94E-04	1.64E-05	3.62E-05	1.04E-05	7.86E-03
Tomato (GH)	Switzerland	2.19E-02	7.90E-03	1.05E-06	2.28E-03	8.39E-07	2.71E-03	5.32E-05	7.03E-04	2.99E-06	2.98E-06	6.27E-06	2.73E-07	9.00E-10	2.28E-04	9.06E-06	2.18E-05	6.76E-06	8.00E-03
Vine tomato (GH)	Switzerland	2.10E-02	7.57E-03	1.01E-06	2.18E-03	8.08E-07	2.61E-03	5.07E-05	6.73E-04	2.88E-06	2.84E-06	5.95E-06	2.60E-07	8.59E-10	2.16E-04	8.83E-06	2.10E-05	6.52E-06	7.68E-03
Cucumber (GH)	Switzerland	2.08E-02	7.48E-03	9.73E-07	2.13E-03	8.21E-07	2.57E-03	5.59E-05	6.65E-04	2.77E-06	2.74E-06	1.41E-06	2.51E-07	7.62E-10	1.95E-04	1.14E-05	1.97E-05	7.41E-06	7.65E-03
Iceberg lettuce	Switzerland	2.08E-02	7.55E-03	1.68E-06	6.87E-04	1.37E-06	3.39E-03	1.40E-05	6.71E-04	3.73E-06	6.41E-07	1.54E-06	1.03E-07	2.57E-10	7.45E-04	1.36E-05	3.47E-05	7.89E-06	7.67E-03
Strawberry	Switzerland	1.91E-02	6.38E-03	1.56E-06	6.21E-04	8.12E-07	2.73E-03	9.61E-06	5.67E-04	3.89E-06	7.93E-07	9.13E-06	2.14E-07	2.84E-10	2.85E-03	8.21E-06	2.24E-05	5.40E-06	5.93E-03
Spinach	Switzerland	1.10E-02	4.38E-03	7.21E-07	4.35E-04	5.99E-07	2.15E-03	7.07E-06	3.90E-04	3.22E-06	3.98E-07	6.99E-07	5.79E-08	1.53E-10	3.66E-04	6.83E-06	1.47E-05	4.40E-06	3.21E-03
Round carrots	Switzerland	9.46E-03	3.00E-03	7.04E-07	3.95E-04	5.66E-07	1.61E-03	1.25E-05	2.67E-04	1.84E-06	4.20E-07	1.75E-05	1.05E-07	1.47E-10	1.16E-03	9.06E-06	1.65E-05	4.81E-06	2.97E-03

15. Water stress vs. GWP. Impacts of different categories sometimes correlate well whereas others are contradicting. When comparing GWP and Water stress impacts it is visible that both situations can happen depending on the location of production. Figure S1 shows the comparison of all products (weighted averages of more than 80 % of the amount of fruits and vegetables sold). Figure S2 shows the impacts for citrus productions in different countries to illustrate the tradeoff between a “good GWP performance” and a “bad water performance”.

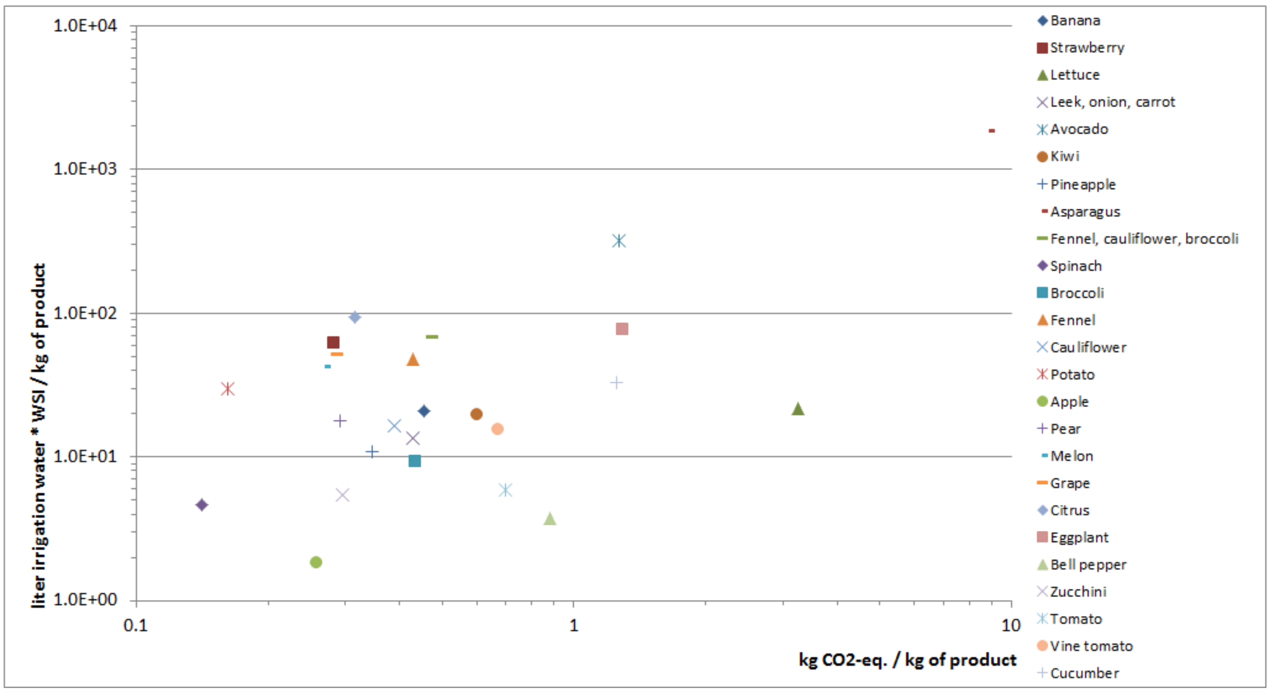

Figure S1: Water stress vs. GWP for different crops (weighted averages from more than 80 % of the amount of fruits and vegetables sold). Axis are scaled logarithmic.

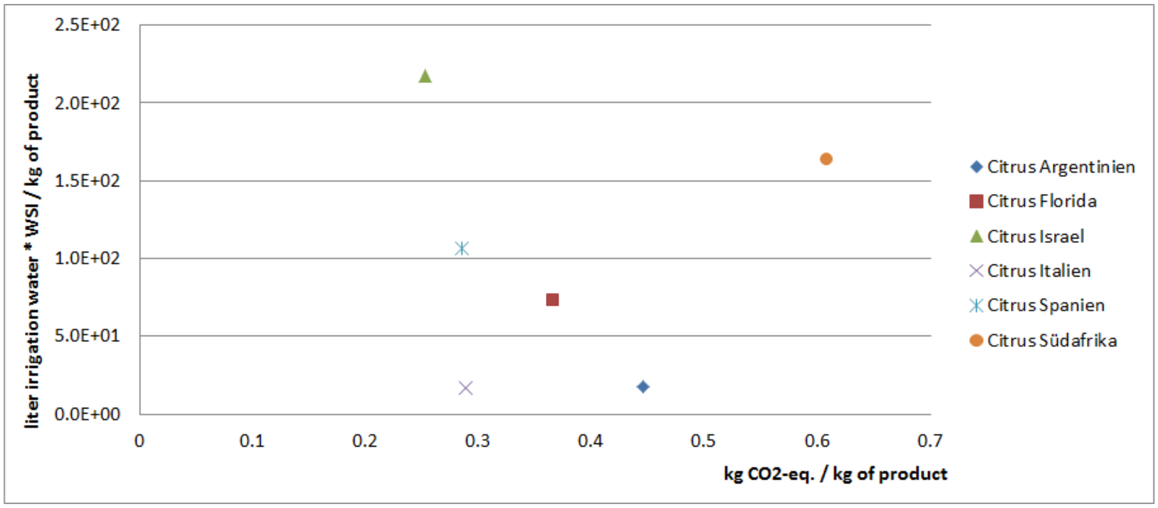

Figure S2: Water stress vs. GWP for citrus fruits (specific impact per kg of product from different locations).

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